SOUTHWEST FLORIDA
VEGETABLE PEST AND DISEASE HOTLINE

December 19, 2000

Following on a cool start, the Southwest Florida area has experienced warmer than average temperatures over the past two weeks. Skies have been mostly sunny and clear although several mornings were accompanied by dense fog in many areas.

A strong cold front swept through the area yesterday evening, bringing some light showers to some areas. Temperatures plummeted more than 30 degrees. The National Weather Service in Miami is forecasting the possibility of freezing temperatures in the upper 20’s for normally colder locations this evening. The forecast for the next several days is for partly cloudy skies and cool temperatures gradually warming toward the weekend.

Daytime highs for the period have ranged from the low to mid 70’s to the low to mid 80’s. Nighttime lows have been mostly in the 50's and 60's although a few nights have seen temperatures fall into the upper 40’s.

The persistent drought that has plagued southwest Florida all season shows no sign of abating anytime soon. Unlike like a number of east coast locations, most of the area has received only trace precipitation over the past two weeks. The FAWN Weather Station in Immokalee has recorded only 0.06 inches of rain to date for the month of December.

By contrast, most of the east coast vegetable production areas received one to two inches of rain with Miami getting almost five inches and Homestead getting from two to more than fifteen inches in some places. Hardest hit were potato-producing areas in the western part of Homestead, which suffered heavy losses.

Immokalee Weather Summary

<table>
<thead>
<tr>
<th>Date</th>
<th>Air Temp °F</th>
<th>Rainfall (Inches)</th>
<th>Hours Below Certain Temperature (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec 5 –19</td>
<td>38.5</td>
<td>86.1</td>
<td>1.7</td>
</tr>
</tbody>
</table>

The Institute of Food and Agricultural Sciences is an Equal Employment Opportunity - Affirmative Action Employer authorized to provide research, educational, information, and other services only to individuals and institutions that function without regard to race, color, sex, age, handicap or national origin.

COOPERATIVE EXTENSION WORK IN AGRICULTURE, FAMILY AND CONSUMER SCIENCES, SEA GRANT AND 4-H YOUTH, STATE OF FLORIDA, IFAS, UNIVERSITY OF FLORIDA, U.S. DEPARTMENT OF AGRICULTURE, AND BOARDS OF COUNTY COMMISSIONERS COOPERATING
Planting of most crops is steady and harvesting active in response to the holiday demand. Most crops are in good condition. Vegetables available include snap beans, cucumbers, pickles, eggplant, peppers, squash, sweet corn, tomatoes and specialty crops. Cantaloupes and watermelons are nearly finished.

The topsoil moisture index for most of the area is short to very short and growers are irrigating steadily to maintain favorable moisture conditions.

As reported in the previous issue the extended drought is of critical concern to all vegetable producers and all agricultural interests in S Florida. Conditions have been compounded by extremely low water levels in Lake Okeechobee, low ground water levels and below normal rainfall totals over the past year or more. Many experts are calling the current drought the worst in the past 100 years and predict little or no precipitation before April or May of next year.

The entire area has now gone over seventy-five days with most areas reporting only a trace of rain since the beginning of October. The FAWN Weather Station in Immokalee has recorded a total of 0.30 inches of rain for all of November and December. Several respondents have noted seeing signs of fertilizer salt build-up and some associated crop damage in some places.

On November 29th, in response to the situation the South Florida Water Management District has issued emergency orders, calling for:

- **Phase 3 agricultural restrictions** on the water deliveries that growers receive directly from the lake;
- **Phase 2 restrictions** for the entire lower west coast service area (Lee, Collier, Glades and Hendry counties and southwest Charlotte County); and
- **Phase 1 restrictions** for the towns surrounding Lake Okeechobee and non-agricultural users in that area.

Phase 2 restrictions affect groundwater users and are intended to cause minimal impact to agricultural users. Under phase 2, cutbacks are largely voluntary. It is hoped that voluntary reductions in water usage will help prevent mandatory restrictions at a later date. Growers should be aware that the typical permitted quantity of water is calculated to be sufficient for most vegetable crops under a five-year drought scenario.

Agricultural users dependent on the lake are under mandatory phase 3 restrictions, which will result the district releasing calculated allocations of water to users, which will result in reductions in the amount of water available to users ranging from 25 percent to 50 percent. Lake Okeechobee is already at the second or third lowest level in history and allocations will depend on rainfall and demand, which the District will calculate weekly.

More detailed information about water-use restrictions is available on the District's web site at [http://www.sfwmd.gov](http://www.sfwmd.gov). Maps of the affected areas are also on the web site under "water shortage."

In addition to the announced water use restrictions, SFWMD has advised growers to check their water use permits and make sure they are up to date. The district has warned that un-permitted use of water will be dealt with severely with possible fines of up to $10,000 per day.

Approximately 10% of Florida's vegetable production land has been converted to drip irrigation from seepage irrigation due to its substantially higher application efficiency, as well as its economic and production advantages. Micro-irrigation systems provide water efficiently by precisely meeting the actual crop ET demand, and apply little surplus water if managed properly. The volume of water pumped to grow a Florida tomato crop can be decreased by about 90% after conversion from sub irrigation to micro-irrigation.
Florida's water-regulating agencies may impose mandatory cutbacks in agricultural pumping to protect the state's limited groundwater resources during droughts, regardless of the producer's irrigation method.

Tomato and other fruiting crops are highly sensitive to water stress, especially during the fruiting stage. Deficit irrigation (deliberate under-irrigation) is likely to reduce yield or quality of horticultural crops, with severe economic consequences. Under a mandatory water-use cutback, producers who have installed highly efficient micro-irrigation systems may be severely affected.

An irrigation deficit study was conducted at the Univ. of Florida, Southwest Florida Research and Education Center in Immokalee, to investigate the impact of water application reductions to tomato under micro-irrigation, where little surplus water is applied above crop requirements. Full-bed plastic-mulched, micro-irrigated tomato was grown for three spring seasons on a sandy Spodosol.

Results indicated that tomato plant height was shorter, and the crop water stress index (CWSI) increased as irrigation deficit increased. Early blight severity was increased by 50%, and blossom end rot incidence was 5 times higher in the 30% deficit treatment, compared to full irrigation. Total marketable yield decreased as irrigation deficit increased in two of three seasons. Reduced irrigation consistently reduced production of the most valuable extra-large sized fruit.

An economic analysis showed that 15 and 30% irrigation reductions would have reduced gross revenue by 15 and 22%, respectively, so an irrigation cutback on micro-irrigated tomato could cause substantial economic loss through decreased crop marketability. Because fresh tomato marketability is also affected by visual appearance, increased disease severity due to plant water stress could result in a total crop failure.

This article can be viewed in full at http://www.imok.ufl.edu/drought/deficit.htm.

Leafminer pressure remains at very high levels across the area. Some reports are indicating counts as high as 20 adults per plant. Stippling and leaf mines are severe especially on younger plantings. Crops affected include beans, leafy vegetables, peppers, potatoes, cucurbits, and tomatoes. A number of respondents have indicated that they are managing to keep the situation under control but that pressure has been intense over the past few weeks.

Several respondents have reported dramatic spikes in leafminer numbers following the harvest of snap beans in adjacent fields.

Growers have obtained good results with abamectin (Agri-Mek), cyromazine (Tri-gard), spinosad (Spintor) and azadirachtin (Neemix). These materials are relatively soft on beneficials. There are a number of other labeled materials that will give good control.

A number of growers have indicated continuing problems with pepper weevils. Populations are low to moderate and most reports indicate pressure has been fairly constant at low levels although there is some indication that weevil pressure may be easing somewhat.

Some worms are still being reported across the area. Reports indicate seeing mostly southern armyworms although some beet armyworms are also being encountered. Pressure is light but fairly persistent according to most reports.

A few isolated reports of pinworms on tomato have been received. Eggs, worms and moths have been noted.

Low levels of aphids are being encountered widely across the area in a variety of crops.
Whiteflies remain at fairly low levels across SW Florida although several respondents have indicated that populations are beginning to climb in older tomato fields that are nearly finished. Growers should be prepared to use alternative whitefly control measures including IGR's such as Knack and Applaud, as Admire begins to wear off and whitefly populations increase.

There has been some resurgence of broadmite activity in pepper and eggplant associated with warmer conditions over the past few weeks.

In general, disease pressure has been low as might be expected under the dry conditions that have prevailed this season.

Several respondents have noted a slight increase in the incidence of early blight in tomato and potato in association with the warmer temperatures and foggy morning conditions that have been common the past few weeks.

The incidence of target spot in tomato is also up marginally but remains at generally low levels.

Scattered reports of downy mildew and powdery mildew has been noted on cantaloupes, cucumbers, squash and watermelon. In general, incidence and severity is low to moderate although in some older picked over fields both diseases are reaching serious proportions.

Several reports have indicated that fusarium crown rot is starting to increase dramatically in some locations. Some reports have indicated up to 5% of the plants wilting in the most severely affected fields.

There have been a few isolated reports of phytophthora on pepper.

**Tomato yellow leaf curl virus is widely present at low levels across the area.** In most cases incidence is very low with only an occasional infected plant every few of acres present. There are a few reports where in older fields that have already been harvested where disease incidence is approaching 1%.

Several growers have indicated that this season, they have observed a higher incidence of potyvirus than TYLCV on tomato.

**Up Coming Meetings:**

December 15, 2000  
Registration deadline for the Florida Certified Crop Advisor Exam (CCA)

The exam is Friday, February 2, 2001.  
Call FFAA at (863) 293-4827 for registration information.

January 11 - 12, 2001  
Florida Certified Crop Advisor Exam Study Workshop  
Citrus Research & Education Center  
Lake Alfred, Florida  
Call FFAA at (863) 293-4827 to register

January 23, 2001  
Production and Utilization of Composted Waste Materials to Improve Soils for Horticultural Cropping Systems  
Tropical Research and Education Center  
18905 SW. 280 St.  
Homestead Florida  
Contact Dr Monica Ozores-Hampton at 305-246-6340
**February 2, 2001**  
*Florida Certified Crop Advisor Exams* (International and Southeast Regional)  
South Florida Community College  
Avon Park, Florida  
8 a.m. until 4 p.m.  
Note: the registration deadline for the exam was December 15, 2000

**April 22-26, 2001**  
*85th Annual Meeting of the Potato Association of America (PAA 2001)*  
St. Augustine, Florida.

Hosted by the University of Florida/IFAS Hastings Research and Education Center, the conference will provide a forum for the presentation of new scientific information, conduct business of the association and facilitate fellowship among colleagues. The conference theme is Potato Plant Health into the New Millennium. Three days of stimulating paper sessions will be kicked off with a dynamic symposium entitled, "Impact of New and Emerging Diseases and Technologies on Potato Seed Certification" co-sponsored by the Certification and Pathology Sections of the PAA. Emphasis will be on challenging soil-borne diseases.

Oral and poster abstracts are being accepted through January 10, 2001. For more information visit the conference website: [http://www.ifas.ufl.edu/~conferweb/paa/](http://www.ifas.ufl.edu/~conferweb/paa/) or contact the University of Florida, IFAS Office of Conferences by phone (352) 392-5930 or by fax (352) 392-9734, or by Email: mtatlock@gnv.ifas.ufl.edu

**August 3, 2001**  
*Florida Certified Crop Advisor Exam*  
South Florida Community College  
Avon Park, Florida  
Call FFAA at (863) 293-4827 for registration information.

**Who to Contact at the South Florida Water Management District**

**West Palm Beach**

**Environmental Resource Permitting - Surface Water Management Related Issues**

Maria Clemente - Sr. Supv Engineer - (561) 682-2996  
Carlos DeRojas - Sr. Supv Engineer - (561) 682-6505

**Water Use Permitting**

Jeff Rosenfeld - Sr. Supv Hydrogeologist - (561) 682-6922  
Rick Bower - Sr. Supv Hydrogeologist - (561) 682-6930

**Well Construction**

Rick Bower - Sr. Supv Hydrogeologist - (561) 682-6930
Water Use Permit Post Permit Compliance
    Jeff Rosenfeld - Sr. Supv Hydrogeologist - (561) 682-6922

Environmental Resource Compliance
    Ken Todd - Sr. Supv Engineer - (561) 682-6874

Environmental Resource Compliance, Enforcement
    Rudy Smith - Sr. Regulatory Sup - (561) 682-6599

Environmental Resource Permitting - Natural Resource Management Issues
    Anita Bain - Sr. Supv Environmental Analyst - (561) 682-6866

Everglades Works of the District Permitting
    Pamela Smith - Sr. Supv Engineer - (561) 682-6901

Application Processing (Acceptance of Applications and Associated Fees)
    Beth Colavecchio - Regulatory Support Supervisor/Applications - (561) 682-6905

Permit Processing (Permit Issuance, Governing Board Agenda, Public Assistance)
    Vern Kaiser - Supv Permit/Applications - (561) 682-6906

Ft. Myers Service Center

Environmental Resource Permitting - Surface Water Management Related Issues
    Richard Thompson - Sr. Supv Engineer - (941) 338-2929

Environmental Resource Permitting - Natural Resource Management Issues
    Karen Johnson - Sr. Supv Environmental Analyst - (941) 338-2929

Post Permit Compliance
    Margaret Bishop - Sr. Regulatory Supv - (941) 338-2929

Okeechobee Service Center

Lake Okeechobee Works of the District Permitting
    Gary Ritter - Sr. Supv Environmental Scientist - (863) 462-5260
Florida’s Mobile Irrigation Lab Program

The Florida Mobile Irrigation Lab Program currently consists of thirteen Mobile Irrigation Labs (MILs) that serve thirty-six counties in the State. All are publicly funded by various governmental agencies. The purpose of this program is to improve irrigation efficiency and water management practices of both agricultural and urban irrigation systems by evaluating irrigation systems and their operation. These MILs evaluate all types of irrigation systems, free of charge, for the agricultural and urban communities. Evaluations include recommendations to increase system uniformity and to adjust operating schedules. The public awareness and educational element of the project includes workshops, demonstrations, displays, and news releases, to reach other segments of the public.

The MIL evaluation involves collecting information on the existing system type and components, crop or lawn type, soils, water source, and current operating practices. On-site measurements include water flows, pressures, wetted areas, spacing, root depth, and other pertinent observations. Based on the information collected, uniformity, flow and application rates, variation in pressures, and other values are calculated. After an evaluation is completed, the MIL prepares a written report containing the results, identified problems, and recommendations to improve the system efficiency. Utilizing the collected information, an irrigation-scheduling guide is created, reflecting water use requirements of the plants throughout the year. Follow-up evaluations are performed on a portion of the systems to document actual water savings from implementing recommended improvements.

The main goal of the MIL program is the conservation of water. Water savings are calculated based on recommended improvements to the irrigation system to increase the uniformity to optimum operating conditions, and on recommended changes to the irrigation schedule. Florida MILs documented over ten billion gallons of water savings in FY 1998 and 1999 alone. An additional benefit of the MIL Program is the reduction of water pollution from the leaching of agricultural and lawn fertilizers and chemicals by inefficient irrigation.

The Collier Soil and Water Conservation District (CSWCD), in cooperation with the United States Department of Agriculture - Natural Resources Conservation Service (USDA-NRCS), with funding from the South Florida Water Management District (SFWMD), has operated the Lower West Coast Mobile Irrigation Lab since 1988. This is a voluntary, non-regulatory approach to water conservation and has been a popular program. The Lower West Coast MIL provides this service to irrigators in Collier, Lee, Hendry, Glades, and part of Charlotte counties.
For more information or if you wish to make an appointment for an MIL evaluation, please call Bob Beck at (941) 455-4100.

Quote of the day: The word 'politics' is derived from the word 'poly', meaning 'many', and the word 'ticks', meaning 'blood sucking parasites'.

Web Sites:

It has been said we know more about what is going on in space than we know about the soil under our feet. The USDA/NRCS Soil Biology Primer is an introduction to the living component of soil and how it contributes to agricultural productivity, and air and water quality. The Primer includes units describing the soil food web and its relationship to soil health, and units about bacteria, fungi, protozoa, nematodes, arthropods, and earthworms. http://www.statlab.iastate.edu/survey/SQI/primer/index.htm

Today in History – explore important historical events that happened on this day in the past. On December 20, 1790, water-powered machinery for spinning and carding cotton was set in motion in Pawtucket, Rhode Island, setting the stage for the industrial revolution in America. http://lcweb2.loc.gov/ammem/today/today.html

Contributors include: Karen Armbrester/SWFREC, Jim Connor/SWFREC, Bruce Corbitt/West Coast Tomato Growers, Fred Heald/Farmers Supply, Sarah Hornsby/AgCropCon, Cecil Howell/H&R Farm, Leon Lucas/Glades Crop Care, Gene McAvoy/Hendry County Extension, Alice McGhee/Thomas Produce, Tim Nychk/Nychk Bros. Farm, Chuck 0bern/C+B Farm, Dr. Pam Roberts/SWFREC, Wes Roan/6 L's, Kevin Seitzinger/Gargiulo, Jay Shivler/ F& F Farm, Ben Stanaland/Pacific Tomato Growers, John Stanford/LNA Farm, Mike Stanford/MED Farms, Dr. Phil Stansly/SWFREC, Eugene Tolar/Red Star Farms, and Dr.Charlie Vavrina/SWFREC, Donna Verbeck/GulfCoast Ag.

The SW Florida Pest and Disease Hotline is compiled by Gene McAvoy and is issued on a biweekly basis by the Hendry County Cooperative Extension Office as a service to the vegetable industry.

Gene McAvoy
Extension Agent II
Vegetable/Ornamental Horticulture 863-674-4092 phone
Hendry County Extension Office 941-860-8811 mobile
PO Box 68 863-674-4097 fax
LaBelle, FL 33975 gmcavoy@gnv.ifas.ufl.edu

http://www.ifas.ufl.edu/~gmcavoy/index.htm

Wishing you a blessed and merry Christmas and the very best for the New Year
Special Thanks to the generous support of our sponsors; who make this publication possible.

- **Thomas Produce Company**
  Of South Florida
  Grower and Shippers of Quality Vegetables
  9905 Clint Moore Road
  Boca Raton, Florida 33496

- **Rohm and Haas Company**
  7100 Twin Eagle Lane
  Fort Myers, Florida 33912
  Phone 941-561-8733 Mobile 941-707-2272

- **Michael P Seese**
  **KeyPlex**
  PO Box 11094
  Naples, FL 34101
  Phone 941-910-4837 Fax 941-514-0168

- **Fred Heald**
  **Farmers Supply Inc**
  710 Broward Street
  Immokalee, FL 34142
  Phone 941-657-8254 Fax 941-657-2005

- **LaBelle Plant World, Inc.**
  Tommy Smith: President
  Scott Smith: Vice President
  We Grow Plants for the Pros
  LaBelle, Florida Phone 941-675-2020

- **Bob Conrad**
  **Asgrow Vegetable Seeds**
  1923 Indian Creek Drive
  Fort Myers, Florida 33917
  Phone 941-370-5893 Fax 941-543-7003

- **Gargiulo**
  Growers Shippers Importers Exporters
  David Pensabene: Production Manager
  Naples Operations
  Phone 941-353-0300 Fax 941-353-3407

- **Ed Early**
  **Dupont Agricultural Products**
  5100 South Cleveland Avenue
  Fort Myers, Florida 33907
  Phone 941-332-1467 Mobile 941-994-8594

- **Shelby F. Hinrichs**
  **AGTROL International**
  6943 Scarboro Drive
  Fort Myers, Florida 33919
  Phone 941-437-9970 Fax 941-437-2646

- **Mike Raines**
  **Griffin LLC**
  13171 Lake Meadow Drive
  Fort Myers, Florida 33913
  Phone 941-274-3102 Fax 941-274-6663
Special Thanks to the generous support of our sponsors; who make this publication possible.

Ted and Trudy Winsberg  
**Green Cay Farms, Inc.**  
Rt. 1, Box 331B  
Boynton Beach, Florida 33437-9727  
Phone 561-499-5345

Donna Muir Strickland  
**Monsanto Crop Protection**  
PO Box 1723  
La Belle, Florida 33975  
Phone 941-675-4250

Glades Crop Care, Inc.  
**Leaders in Crop Health Management**  
Charlie Mellinger, Ph.D.  
Phone 561-746-3740 Fax 561-746-3775

Mark Verbeck  
**Bayer Crop Protection**  
20750 N River Road  
Alva, Florida 33920  
Phone 941-728-8847 Cell 941-980-5295

Glen Kaufman  
**Paramount Seeds, Inc.**  
PO Box 1866  
Palm City, Florida 34991  
Phone 561-221-0653 Fax 561-221-0102

Walter Preston  
**Manatee Fruit Company**  
PO Box 128  
Palmetto, Florida 34220-0128  
Phone 941-722-3279 Fax 941-729-5151

Jason Robbins  
**Novartis Crop Protection**  
13300-56 S. Cleveland Avenue, Suite 320  
Fort Myers, Florida 33907  
Phone 941-454-4159 Fax 941-454-4159

Thermo Trilogy Corporation  
Dr. Adam Muckenfuss 561-781-2233  
Sales: Joe Craig 941-965-1145  
Ed Dickenson 941-318-9004  
Javelin® Agree® Trilogy® Neemix®

AgriEnergy Resources  
Sam Hipp  
21417 1950 E St., Princeton IL 61356  
Phone 954-563-8753 Fax 815-872-1928  
http://www.agrienergy.net

Scott Allison  
**DIAMOND R FERTILIZER**  
1155 Commerce Drive  
LaBelle, Florida 33935  
Phone 941-675-3700 Cell 941-851-0613
Special Thanks to the generous support of our sponsors; who make this publication possible.

**PLANTBOY, Inc.**
Crop Protection Management
Syed Fazli, Ph.D. (Texas A&M)
Certified Professional Crop Consultant/Pathologist
Phone 954-731-2065  Fax 954-341-2152

**Dow AgroSciences LLC**
292 Lake Pearl Drive
Lake Placid, Florida 33852
Phone 941-699-9150  Cell 941-745-0237

**Sim Nifong**
Certified Professional Crop Consultant/Pathologist
Phone 954-731-2065  Fax 954-341-2152

**Sarah Hornsby, CCA**
*Agricultural Crop Consulting, Inc*
Scouting: Manatee, Hillsborough, Collier
Office/Fax 941-776-1122  Cell 941-713-6116
Email: AgCropCon@aol.com

**Mr and Mrs Raymond Cordell**
410 Via Esplande
Punta Gorda, Florida 33950

**Robert F. Gregg**
*Zeneca Ag Products*
11051 Championship Drive
Fort Myers, FL 33913
Office 941-561-8568  Fax 941-561-8569
Cell 941-851-3739

**Colony Helicopters**
Aquatic Weed Spraying
Citrus Spraying
Frost Protection
Offices in LaBelle and Ft Pierce
1-800-741-8944

**Capital Agricultural Property Services, Inc.**
201 South Orange Avenue, Suite 790
Orlando, Florida 32801
407-649-4878

**Thad G. Boatwright**
*Monsanto Crop Protection*
1089 Forsythia Lane
West Palm Beach, FL 33415
Office 561-478-4970  Fax 561-478-4970
Cell 561-719-6820

**PUT YOUR NAME HERE**
If you would like to help sponsor this publication, please contact us, your help is desperately needed!

NOTE: The acknowledgement of sponsorship in no way constitutes or reflects an official endorsement of these businesses or their products or services by either the University of Florida, IFAS, the Florida Cooperative Extension Service, or the Hendry County Extension Office. Sponsors have no control over the content of this publication.